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I am writing to oppose the Landscape Vegetation Analysis Project (LaVa). The proposal is based on faulty science, in many ways, too numerous to detail here. But part of the justification is based on the idea that a "healthy" forest is one without dead and dying trees, when in fact, dead and dying trees are critical to healthy forest ecosystems. Many species of birds, mammals, insects, etc. live in mortal fear of green trees. They rely on episodic events like bark beetle outbreaks, wildfires, etc. to create the habitat that ensures their future and lives.

We actually have a fire deficit not an abundance.

The second flawed assumption is that high severity fires are "bad" and that logging and other treatments will preclude them. I would challenge that assumption about 100 years without fire. I think that is a great exaggeration for several reasons.

First, it's begs credibility that 100 years ago guys riding around on mules with shovels in what was essentially roadless wilderness had that much influence on stopping wildfifes--especially the big ones.

Second, another complication is shifting baseline. The climate has not been the same for the past 120 years or so. In the early part of 1900s, It is estimated that 30-50 million acres of the West burned annually back in those days (much more than the 10 million acres we see today). Think of the 1910 Burn that charred 3.5 million acres of Idaho and Montana.

Then in mid century from the late 1930s through the early 1980s it was cooler and moister which means you had fewer ignitions and less fire spread. This is exactly the time when "successful" fire suppression. Keep in mind that most fires go out without any suppression, so we took credit for "fire suppression" that may not have occurred.

Then the climate shifted again and we now have extreme droughts, higher temps, lower humidity, etc. all of which favors more fire on the landscape.

What the research shows is that most fires burn themselves out in a matter of a few acres. We take credit for putting out fires that would have self extinguished. For instance, there is a study done in Yellowstone where there were 235 fires that were monitored but not suppressed. If i remember the details correctly something like 222 of those blazes burned an acre or less, and of the few that burned more, only one was larger than 1000 acres. All self extinguished. Why did this occur? Because during that period of time (1972-1987) it was cooler and moister in Yellowstone--and like everywhere in the West, the climate was controlling the fires.

Think of how many 1-5 acres fires you need to burn a million acres. I did some calculations on ponderosa pine. There are about 50 million acres of p pine in the West. And you commonly read that these forests burned anywhere from every 5-20 years. Just for argument's sake to burn 50 million acres every 10 years, you would need to be burning 5 million acres a year in low severity burns just in ponderosa pine. And that is every year on average. That is a very large number and it begs the imagination to think that we had that much fire on the landscape at that frequency burning in small patches of 10 or even 100 acres at a time.

And this is contratry to our expeience with fire. It is really only the very few larger fires that account for the majority of all burned acreage. Something like 95 to 98% of all acreage burned annually is the result of 1% or less of all fires. Indeed, one study found that 0.01% of fires accounted for half of the acreage burned annually.

Which means that the idea that we had all these little fires making any ecological difference is a farce. Indeed, even today if you look at statistics of burn severity, even the "high severity" blazes have more acres burning at low severity than high severity. So it is and has always been the rare, but the occasional large fire burning under extreme fire conditions that did most of the "ecological work" in our plant communities.

Furthermore, there is debate among fire scientists about the accuracy of fire scar historical studies. There are inherent biases in fire scars that tend to "reduce" the fire intervals. There are biases in all study methods of course, but the bias towards shorter intervals has policy implications.

So the idea that we had fires burning every 10-25 years in our forests, except perhaps for some ponderosa pine forests may be a flawed assumption. In other places, researchers have challenged the short rotation of fires even in ponderosa pine forests. And for nearly all other kinds of forests from juniper to fir forests the intervals are much longer, often hundreds of years. So the idea that fire suppression has affected them is again incorrect. If you have two hundred years between fires and you have successfully suppressed fires for 50 years or even 100 years, you have not affected the fire rotation. It's incorrect to assume that half of the area would have burned as some do, you either have a fire or you don't and only when the conditions for a burn exist.

When other methods are used including air photos, charcoal and pollen records, GLO reports, and so forth, a different picture of fire emerges that suggests much longer fire rotations. Of course, many present fire researchers cut their teeth on fire scar studies. They are defending their methods and in many cases revising them to make them less biased, but like the controversy over the continental plate tectonics that raged for a couple of decades, those who had earned their Ph.D. arguging that continents did not move were the dominant force for a long time because they did not want to acknowledge their theories were wrong. Eventually the evidence for plate movement was so overwhelming, we moved on. I think we are in a similar situation with fire scar studies.

Fire scar studies mostly just count fires. But you need to know how many acres burned, over what area, and fire severity, ,and so forth, and most fire scar studies do not provide this information.

Plus even with the fire scar methods, you have to look at the interval distribution. We get sucked in by "average" interval. For example in an extreme hypothetical case, you could have five fires in a hundred years--giving you an interval of a fire every 20 years. But three of those fires may have occurred in one decade, followed by 80 years without a fire, and two fires in the last decade of a hundred year period. So you would say there was a fire every 20 years, but in reality you had 80 years fire free.

Also low severity high frequently burn regime does not exclude the occasional high severity large fire. They are not mutually exclusive. So you could have a situation where fire was somewhat frequent in ponderosa pine forests, but in a particular year when you had the extreme fire weather conditions of extreme drought, low humidity, high temps, and wind, you might have a large high severity burn. Keep in mind that even in these fires, there is a "mosaic" in the burn pattern, so you would have some residual large pines in clusters or in places that naturally provided some resistant to fire like rocky ridges, etc.

In particular, new research shows that the greatest value of our forests is carbon storage. Even dead trees store carbon for long periods and logging releases far more carbon than a wildfire.